# Collection and Analysis of Visitor Use Information

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This report has been catalogued by the WICHE Library as follows:

Lee, Jon
Collection and analysis of visitor use information: Proposed upper Missouri Wild and Scenic River. Boulder, Colo., Western Interstate Commission for Higher Education, 1975.
31p.

1. Montana - Recreation. 2. Wild and Scenic River - Upper Missouri. I. Title. II. Western Interstate Commission for Higher Education. Resources Development Internship Program. III. U.S. Department of the Interior. Bureau of Land Management.



The Resources Development Internship Program has been financed during 1975 by grants from the Economic Development Administration, the Jessie Smith Noyes Foundation, the National Endowment for the Humanities, the Wyoming Office of Manpower Planning; and by more than one hundred and fifty community agencies throughout the West.

# COLLECTION AND ANALYSIS OF VISITOR USE INFORMATION: PROPOSED UPPER MISSOURI WILD AND SCENIC RIVER

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Sponsored by: United States Department of the Interior
Bureau of Land Management - Lewistown District

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ABSTRACT

A 170-mile free-flowing section of the upper Missouri River between Fort Benton and U.S. 191 in central Montana has been proposed for inclusion in the National Wild and Scenic River System. This area, which offers outstanding scenic and historical attractions, has been the subject of intensive study, and other proposed developments include several dams by the U.S. Army Corps of Engineers and a Wilderness Waterway to be managed by the National Park Service. A study, conducted by the Bureau of Land Management in conjunction with the Western Interstate Commission for Higher Education, hoped to collect and analyze previously unknown facts and figures on recreational use of this stretch of the river. Specifically, this would call for recording precise counts on visitation, developing a visitor profile of demographic data, analyzing activities on the river, and making basic observations to develop overviews and subsequent recommendations for river management. This project would also establish baseline data for continued longitudinal studies.

Judith Landing, a developed campsite with favorable road access to both the upper and lower sections of the river, was selected as the most strategic sample point. Sampling was conducted over an 11-week period running from June 9-August 24, 1975. Responses and observations were recorded on a standard U.S. Department of the Interior-BLM form.

The results of the study disclosed that approximately 1200 persons floated the river for a total of 5,500 recreation days. Frequency distributions were in keeping with normal use patterns with heaviest traffic occurring on weekends and midsummer weeks. Most floaters showed a marked preference for free-floating, non-motorized crafts and for semi-developed campsites. Floats of 3-5 days were the general rule with rate of travel and available time being the important factors in determining length of stay. Most floaters came from either local communities with immediate access to the river, population centers in Montana, or population centers in adjacent states. A general trend existed for local floaters to take shorter, 2- to 3-day trips, usually doing just the Whiterocks section, while persons from further away tended to float the entire river. A large portion of float parties were families, church or community groups, youth agencies, or special interest groups. Scenery, ease in floating, history, and wilderness were consistently cited as particular attractions of the river.

Recreational use of this area will undoubtedly increase in the immediate future, and a need exists to develop a comprehensive management plan. This should basically serve to prevent further advances of civilization, protect remaining historical sites, disperse floaters to lesser-used areas, and interpret to the public the vast natural history of the river.

# INTRODUCTION

Increased public interest towards outdoor recreation during recent years has accentuated the need for establishing large, essentially remote areas suitable for activities such as hunting, fishing, hiking, camping, or canoeing. Subsequently, a section of the upper Missouri River in central Montana has recently been proposed for inclusion in the National Wild and Scenic River System. This area has been the subject of intensive study in the past, and other proposed developments include several dams by the U.S. Army Corps of Engineers, and a Wilderness Waterway to be administered by the National Park Service. Under the stipulations of the 1968 Wild and Scenic River Act, the Bureau of Land Management (BLM) would become the managing agency because it presently manages most of the land involved in the proposed Wild and Scenic River.

This study, conducted by the BLM in conjunction with the Western Interstate Commission for Higher Education, hoped to collect and analyze previously unknown facts and figures on present recreational use of the area in question. Specifically, the project attempted to accomplish the following objectives:

1. To obtain precise numbers on visitor use, including an overall count, day use figures, and breakdowns by days of the week, and by weeks throughout the summer season.

2. To develop a visitor use profile concerning lengths of stay and of float trips, popular activities, frequent campsites, and basic demographic data.

3. To gain an overview on visitation based on interviews and unsolicited comments concerning the particular attractions of the river, observed trends in visitation, and future management considerations.

4. To develop specific recommendations for a comprehensive management plan such as location of campsites, methods of dispering visitors, garbage disposal, or interpretive devices.

5. To establish baseline data and a format for continued longitudinal studies so that future management might be based on actual needs and trends.

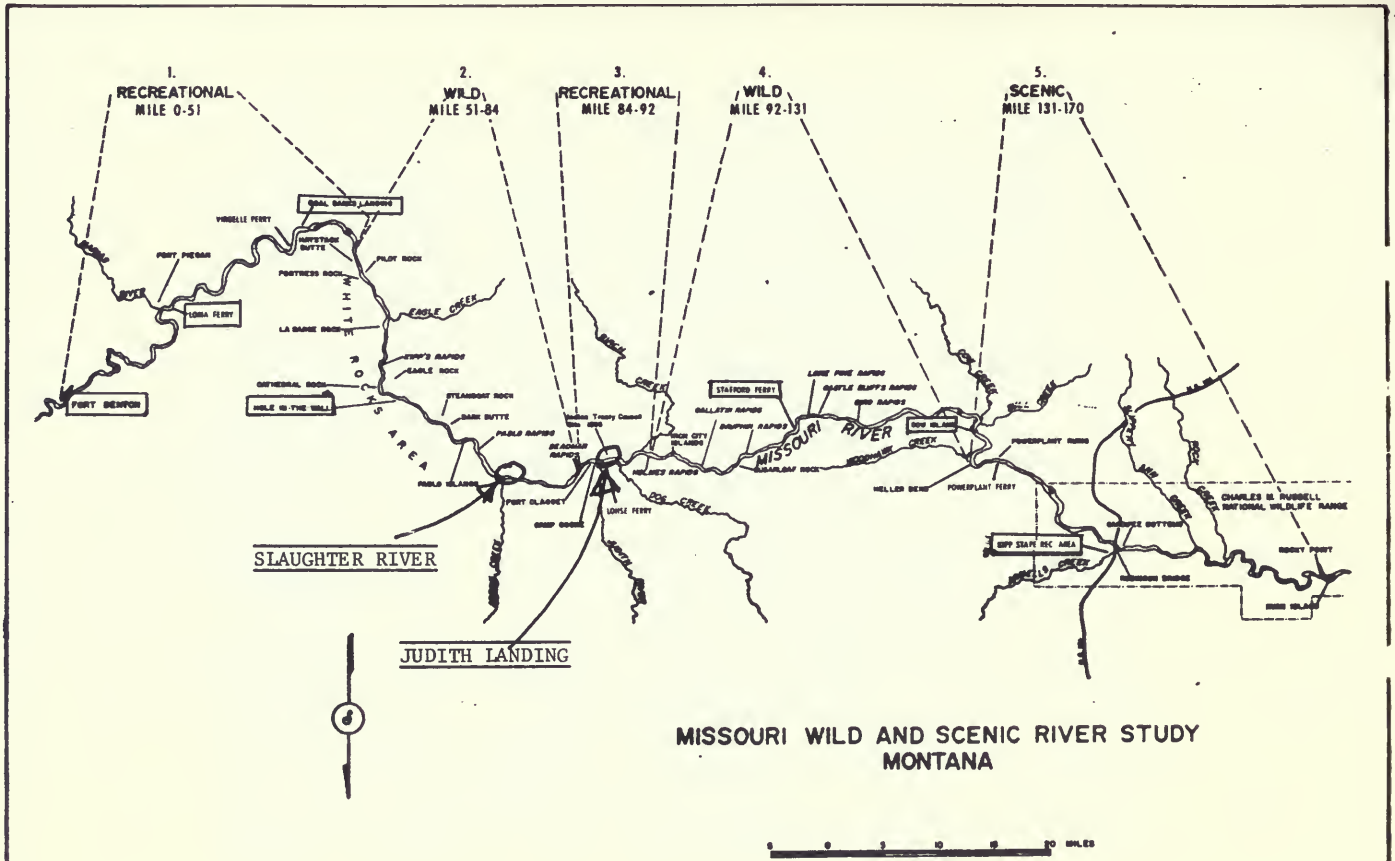
## STUDY AREA

The proposed Wild and Scenic River encompasses a 170-mile section between Fort Benton and the Fred Robinson Bridge on U.S. 191. This section represents the last free-flowing portion of the Missouri, and outstanding scenic attractions include white sandstone formations, eroded badlands, and broad river bottoms. Frequently seen wildlife along the river include mule and white-tailed deer, antelope, coyotes, big horn sheep, golden eagles,white pelicans, and great blue herons. Many other species may be seen, though with less frequent sightings. Another major attraction of the river is its historical significance during the early Indian occupation, the Lewis and Clark Expedition, and the eras of the fur-trappers, keelboats, steamboats, cattle, and the gold rush. Along the river one can see abandoned cabins and ranch houses, various rapids from the steamboat era, Lewis and Clark campgrounds, Indian tipi rings, or buffalo jumps.

For recreational use, the river can be divided into two sections. The upper stretch, commonly referred to as the whiterocks section, runs from Fort Benton down to the Judith Landing campsite, and the lower section, usually called the badlands section, runs from Judith Landing down to the Robinson Bridge.

On the map on page 7, particularly note the locations of these features:

1. Fort Benton - Upper terminal of river, location of historical museum.
2. Loma - Road access point.
3. Coal Banks Landing - Road access point, developed site (F&G).
4. Hole-in-the-Wall - Developed campsite, fresh water.
5. White rocks area - Scenic attraction.
6. Slaughter River - Developed campsite, no water.
7. Judith Landing - Road access point from either Big Sandy or Winnifred, fresh water, developed site.
8. Stafford Ferry - Road access point.
9. Cow Island - Developed site, no water.
10. Robinson Bridge-Kipp State Recreation Area - developed site road access.




MISSOURI WILD AND SCENIC RIVER STUDY
MONTANA

## METHODS

Judith Landing, a developed campsite with favorable road access to both the upper and lower sections of the river, was selected as the most strategic sample point. Sampling was conducted over an 11-week period running from June 9 - August 24. Approximately 13 days were missed due to time-off. During this time a count was made by Robert and Lorraine Otto who operate the adjacent PN Ferry. This count was generally cross-checked by upriver runs before leaving the site, consulation with other visitors, or in conjunction with Bob Singer, an outfitter from Fort Benton who plans many of his excursions weekdays. Other floaters were not interviewed as they chose to float past the sample point. A sign which was posted to announce that recreation research was in progress hopefully added to the interview sample. Final tabulations indicate that approximately 85% of all known floaters were interviewed directly. This should be viewed as a fairly valid sample, and the developed profile should be quite consistent. A similar technique, known as double-sampling, has been used by the Montana State Department of Fish and Game in other visitor use studies. Developed by James and Ripley, this basically calls for an estimated figure on visitation (based on proven predictors such as traffic counts or waterflow) used in conjunction with with supplemental in-depth interviews on a smaller, randomly-selected population.

A standard U.S. Department of the Interior - BLM-approved form was used in conducting the study. Open comments were recorded for later use in developing overviews. A sample of this form can be found in Appendix B. Particular attention was directed towards circled questions.

An important consideration in reviewing this material should be that this study was essentially a census which hoped to obtain basic statistics and make basic observations upon which to base a management plan. As such, it should not be viewed as a survey regarding Wild and Scenic Rivers, the public image of various resource managing agencies, or any other form of attitude measurement. These matters go well beyond the scope of this project and would require the use of a more sensitive, Likert-type instrument, pilot work, and more attention to random sampling.

## FINDINGS

### A. VISITATION FIGURES - FLOATERS:

A total of 1,234 persons were recorded as floating the river for an estimated 5,553 recreation days. Whereas this count does fall considerably short of the traditional estimate which set visitation at 3,000 floaters, persons familiar with the area, i.e. ranchers or repeat users, reported that traffic during the month of June was unusually light. Visitation figures from Yellowstone National Park and Bighorn National Recreation Area show a slight increase for June. However, the Missouri drainage suffered from severe flooding this summer, and many floaters undoubtedly cancelled trips because of high waters and uncertain road conditions. Unseasonally heavy precipitation persisted throughout much of the summer and this also contributed to reduced visitation.

In general, frequency distributions were fairly consistent with standard curves with heaviest use occurring in late July. The dip during the week of 6/16-6/22 represents the peak of the flood during which time the entire Judith Landing campsite was flooded. The 76 figure itself is a bit misleading as it represents a group of 55 from Glasco, Montana, and an American Foresters group on a cruise with Missouri River Cruises. Similarly, the 203 count recorded for the week of 7/21-7/27 is a bit high since it contains a group of 40 Boy Scouts from Whitefish and Kalispell, Montana.

Similarly, visitation in terms of days of the week occurred as might be expected with heaviest use on the weekends. Many short trips were planned to end on the weekends, especially on sundays. The high incidence of visitors arriving at Judith Landing on Tuesdays and Wednesdays would seem to suggest that many groups plan longer trips for weekdays to avoid heavier weekend use.

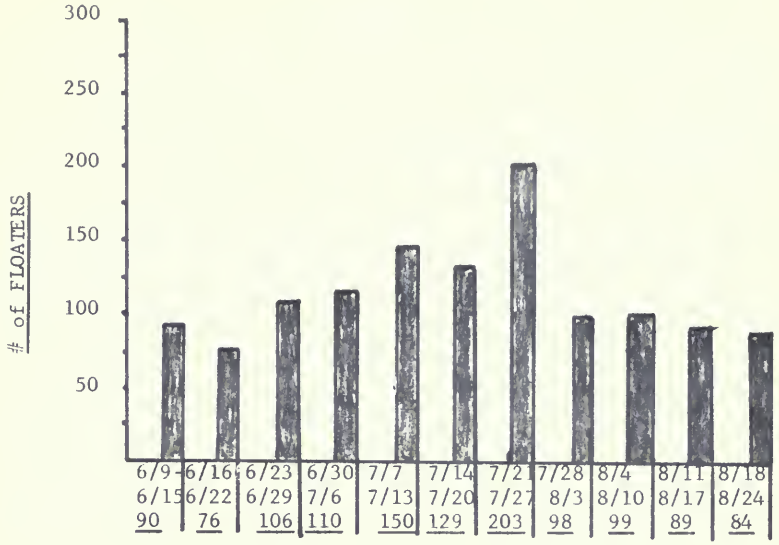



TABLE 1 - FLOATERS BY WEEKLY COUNT

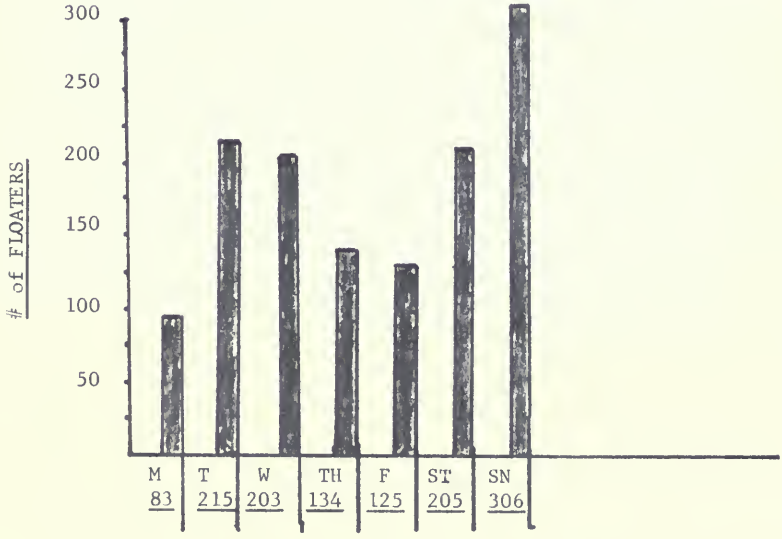



TABLE 2 - FLOATERS BY DAYS OF WEEK

A. VISITATION FIGURES - DAY USE:

A total of 241 visitors used the Judith Landing area for purposes other than floating. These visitors accounted for 431 recreation days. The same basic trends observed for floaters remain fairly consistent for day use with heaviest traffic occurring on weekends and midsummer weeks.

Most day use visitors can be grouped as follows:

1. Persons bringing vehicles to meet and pick-up floaters taking out at Judith Landing. Many plan picnics for this time and may arrive a day early and camp.

2. Persons very local i.e. Big Sandy, Winnifred, Havre, who come down for an afternoon or evening of fishing, swimming, boating, water-skiing, or picnicing. Most of this occurs between haying and harvest.

3. Persons passing through on the PN ferry who decide to picnic or camp overnight.

Similar figures and trends would most likely occur at other day use areas such as Coal Banks Landing, Stafford Ferry, or Kipp State Recreation Area. Kipp would most likely have the highest use because of high quality access roads. Stafford has poor roads, and Coal Banks seems to lack sufficient shade.

B. VISITOR PROFILE - GEOGRAPHIC DISTRIBUTION:

The geographic distribution of floaters in terms of their home towns is illustrated by the map on page 13 & 14. These show a pattern fairly consistent with other studies which have shown that the origin of visitors is basically a function of population and distance. A major population or a community with immediate access will tend to use a recreation area frequently, whereas smaller communities further away will logically visit more local areas. As might be expected then, a large portion of floaters come from

1. Adjacent Montana communities such as Fort Benton, Havre, Big Sandy, Winnifred, Lewistown, or Harlem.

2. Major Montana population centers such as Great Falls, Billings, Missoula, or Helena.

3. Major population centers in adjacent states such as Seattle, Washington, Portland, Oregon, Denver, Colorado, or the San Francisco Bay area.

In keeping with the distance factor, Great Falls, because of its favorable access to the river, visits the river much more frequently than does Billings, a city with an almost identical population. Similarly, in keeping with the population factor, California, with its huge population, has almost as many visitors on the river as does Oregon, though the latter has much greater access. As the cost of auto travel increases, this function may shift to where distance becomes a greater factor and people will utilize local resources more effectively.

One general trend which was observed is that persons closer to the river tended to take shorter, more frequent float trips, often doing just the Whiterocks section, and persons from further away tended to spend more time on the river, usually floating the entire stretch. Montana itself accounted for 72% of all river users.

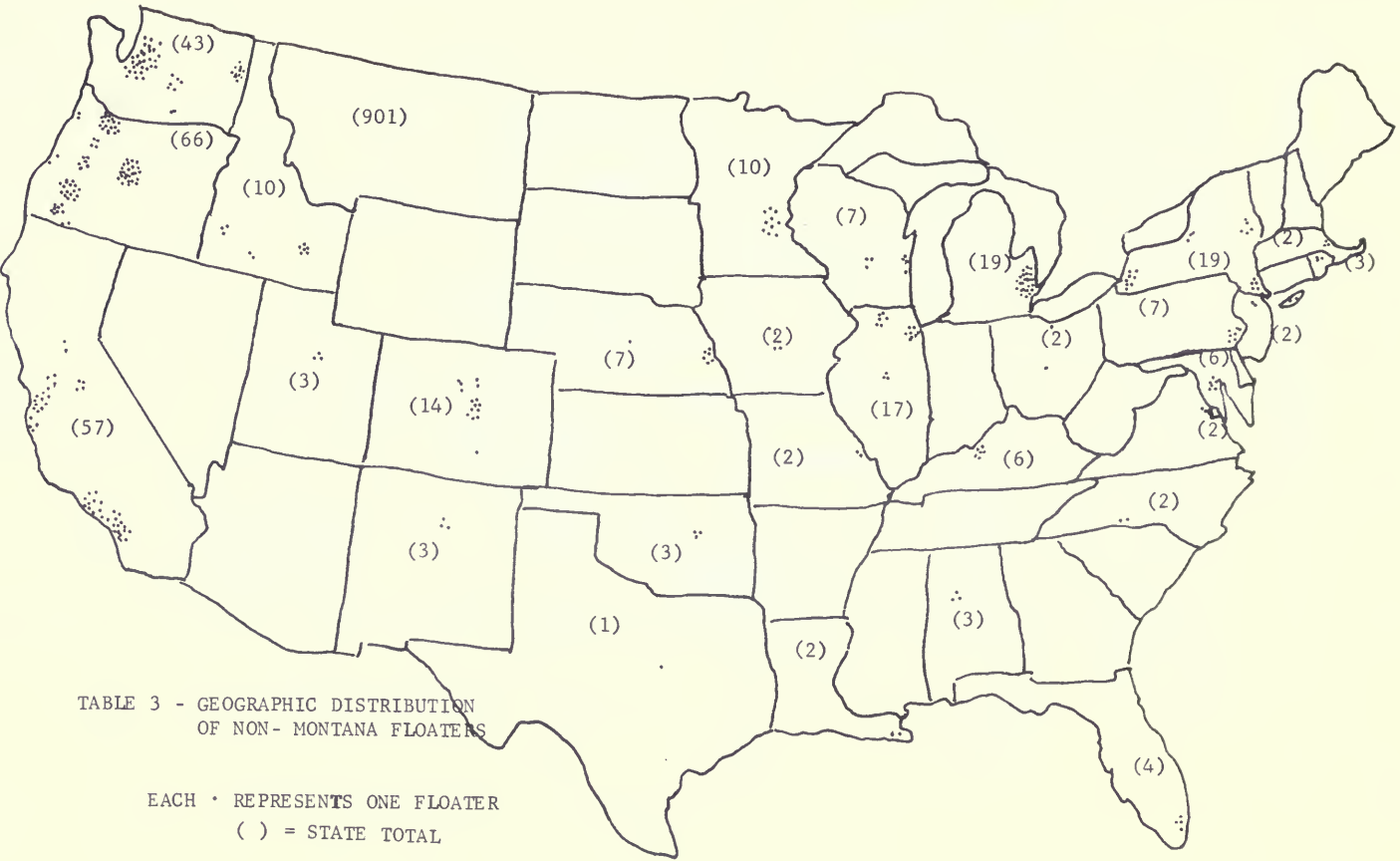



TABLE 3 - GEOGRAPHIC DISTRIBUTION
OF NON- MONTANA FLOATERS

EACH · REPRESENTS ONE FLOATER
( ) = STATE TOTAL

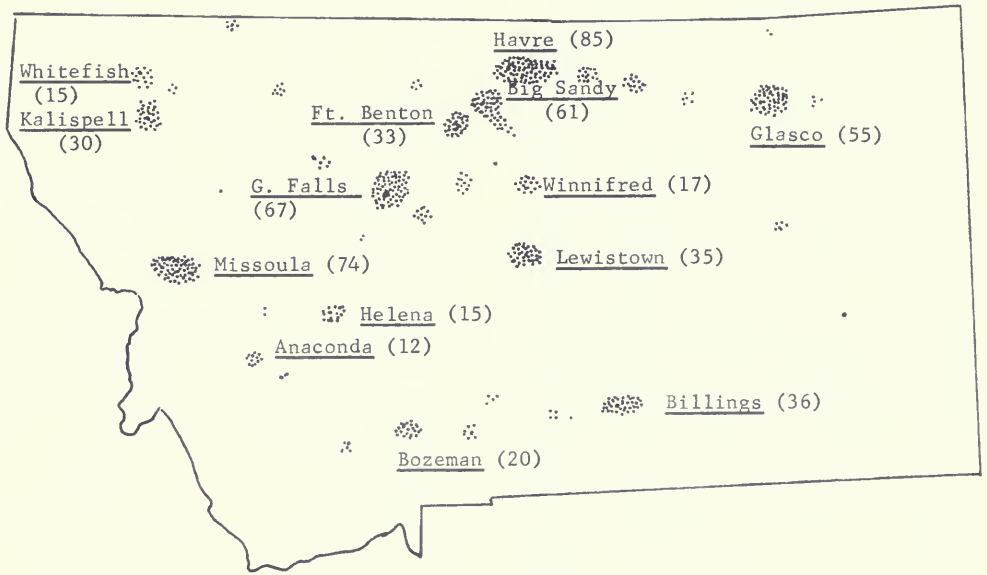



TABLE 4 - GEOGRAPHIC DISTRIBUTION OF MONTANA FLOATERS

EACH • REPRESENTS ONE FLOATER
( ) = TOTAL FOR POPULATION CENTER

B. VISITOR PROFILE - GROUP COMPOSITION:

Family groups account for over half of the total river users. Frequently these are the macro-families with three generations all on the river. The size of groups can vary from 1-55, though a more typical group would consist of a young family of 3-6 persons. The youngest visitors were 6 years old, and the oldest were two retired farmers aged 83.

Commercial traffic (guided floats) account for approximately 20-25% of all river visitors. In addition to Bob Singer's Missouri River Cruises, Missouri River Wilderness Excursions (also of Fort Benton) and Dave Williams, a Portland, Oregon outfitter offer trips.

In addition, the river is used extensively by a wide variety of special interest groups, community organizations, and youth agencies:

Explorers- Missoula, Montana; Bellvue, Washington
Boy Scouts- Kalispell-Whitefish, Montana; Missoula, Mt.; Grants Pass, Oregon.
Sierra Club
American Forestry Association
American Baptist Church
Sacred Heart Schools
Time-Life Publications
Montana State Travel Promotion
Soil Conservation Service- Big Sandy District
Chamber of Commerce- Glasco, Montana
Fort Belknap Tribal Council
Nebraska Bi-Centennial Committee

B. VISITOR PROFILE - HOW THEY FOUND OUT:

Visitors appear to have become interested and aware of the Missouri through the following sources:

1. ADVERTISEMENT for Missouri River Cruises in publications such as Adventure Trip Guide, Great Falls Tribune, Montana Highways promotion brochures, Lewis and Clark Trail Society.

2. FEATURE ARTICLES on the river in Audobon, The Oregonian, Montana Outdoors, Chicago Times, National Geographic, National Camping and Hiking, Seattle-Times, American Forests.

3. MENTION IN TRAVEL GUIDES from canoe and outing clubs, highway promotion, special interest groups.

4. WORD OF MOUTH. Many groups have one or two repeat floaters who come back with friends or family.

5. NATURAL CURIOSITY in local resources by people in the surrounding area (Geraldine, Big Sandy, Lewistown, Winnifred, Havre).

Potential interest in the Missouri appears to be quite high. A look at Bob Singer's files shows that a single article in a newspaper such as the Seattle Times or the Oregonian will trigger an immediate series of inquiries about cruises, canoe rentals, or logistic assistance.

C. ACTIVITY ANALYSIS - FLOATING:

The most prevalent activities on the river are floating, camping, and hiking, In addition, many visitors participate in other related activities such as fishing, swimming, photography, and wildlife observation.

Most people choose to free float the river without the use of motors. Free-floating boats account for 68% of all river traffic. Canoes are by far the most popular boat and account for over half of all boats, followed by motor boats, rafts, pontoon tour boats, and kayaks. Pontoon boats appear to be a popular choice for larger groups who do not wish to canoe or raft. Most people with motor boats report that they do spend some time just free-floating.

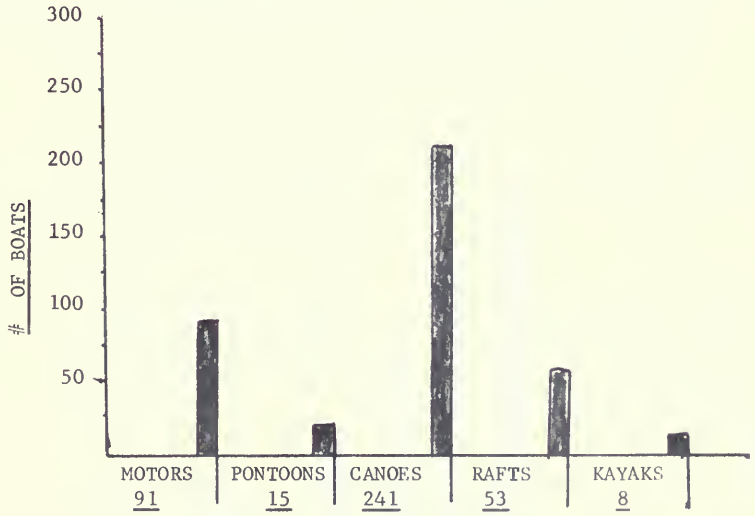


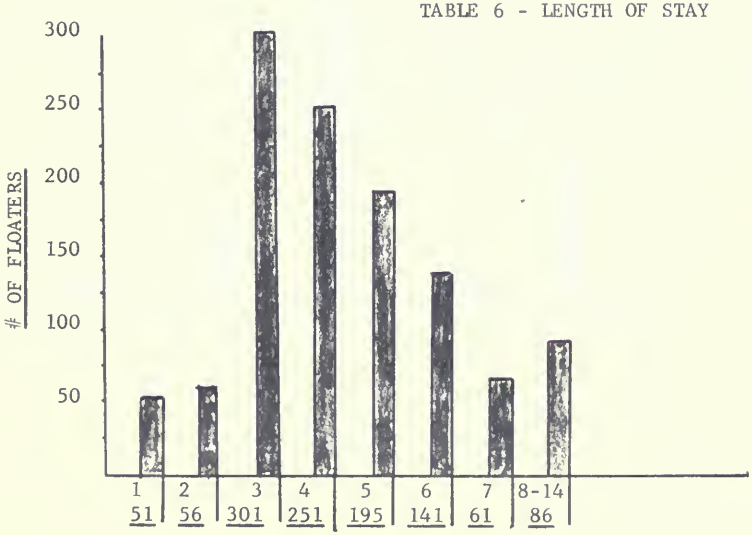

TABLE 5 - TYPES OF BOATS

C. ACTIVITY ANALYSIS - FLOATING - Length of Stay:

Definite trends were observed in terms of lengths of stay among floaters. Three-five days appears to be the most favored length of stay. In cross-correlating these figures with the length of trip figures, it would seem that whereas most people floating from Coal Banks Landing to Judith Landing take about three days, people floating the entire river generally do not take substantially longer. This is particularly true in view of the fact that most people floating to Kipp choose to put in at Fort Benton rather than Coal Banks Landing.

It seems logical then, that rate of speed is the determining factor in choosing a length of stay. With canoes or motorboats, it is fairly easy to cover the entire section (FB-K) in four days. Rafts logically account for almost 80% of all floaters spending more than a week on the river. Unseasonally high waters and increased flow rates (estimated at one point to be around 12-15 mph), shortened some trips when floaters found themselves arriving at Judith Landing well ahead of schedule. Subsequently, continued longitudinal studies may show a slight shift towards longer trips. A few persons chose to make the trip (usually just the Whiterocks) in one or two days, usually using motorboats.

TABLE 6 - LENGTH OF STAY



C. ACTIVITY ANALYSIS - FLOATING - Length of Float:

The Whiterocks section, as might be expected, is used much more frequently than the lower Badlands section. Almost all parties choosing a short trip prefer to do the upper section. The popularity of the Whiterocks can most likely be attributed to the following reasons:

1. More publicity and public awareness of the scenic attractions.

2. Road access points are closer to population centers.

3. All guided tours start at either Fort Benton, Loma, or Coal Banks Landing.

Table 7 shows a strong tendency for floaters who wish to go all the way to the bridge to put in at Fort Benton, whereas floaters who plan on taking out at Judith Landing prefer Coal Banks Landing as a launching point. Those who do elect to float just the upper section usually cite the following reasons:

1. Available time permits only two or three days on the river.

2. Incremental weather such as wind, rain, heat, humidity, or the persistent occurrence of all four within a 24-hour period.

3. Lack of interest in the Badlands.

A small portion choose to go beyond Kipp; however, the 69 figure is misleading since it contains a group of 55 from Glasco who powered from Fort Benton to Fort Peck in five days. Similarly, a group of 40 boy scouts and leaders account for all floaters taking out at the Stafford Ferry.

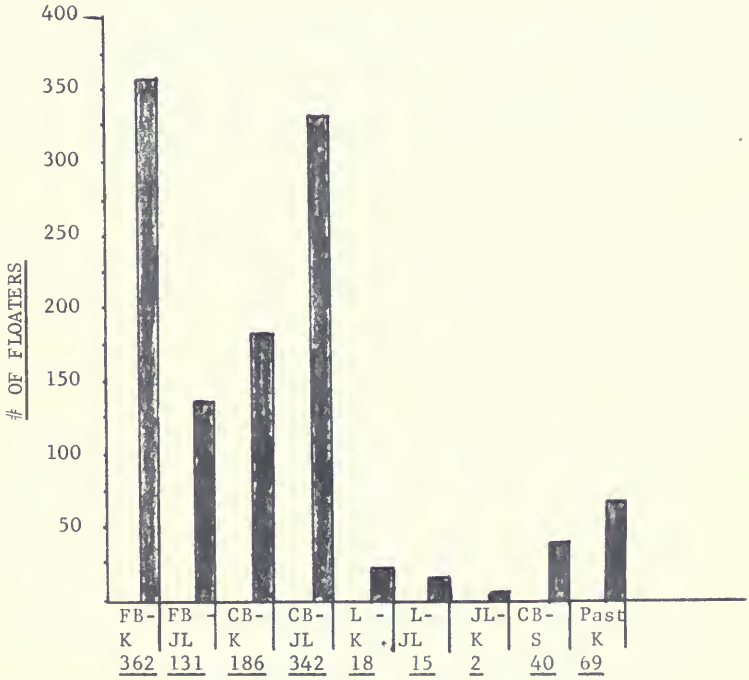
Three parties were encountered this summer who were doing much longer floats, the longest of which was a group of four from Omaha, Nebraska who were canoeing from Yellowstone Lake to New Orleans over a 4½ - month period.

With Judith Landing as a sample point, floaters taking out at Coal Banks Landing, Arrow Creek, or Hole in the Wall could not be recorded. Road access is limited but possible to these and many other points along the river.

C. ACTIVITY ANALYSIS - FLOATING - Length of Float:

KEY:
FB - Fort Benton
L - Loma
JL - Judith Landing
CB - Coal Banks Landing
S - Stafford Ferry
K - Kipp State Recreation Area

TABLE 7 - LENGTH OF FLOAT



C. ACTIVITY ANALYSIS - CAMPING:

Camping is an integral part of any float trip over two days in length. Most people (80%) make use of at least one of the developed sites during the course of a float for garbage disposal, fresh water, lunch, or overnight camping. Roughly one-half (50-55%) however, prefer to camp away from established sites and pull over at the most convenient cottonwood grove. This is, of course, a necessity on the lower section because of the 40 mile stretch between Judith Landing and Cow Island. Judith Landing and Hole in the Wall are by far the most frequently used areas because of water pumps, strategic location, and ease in landing. Coal Banks Landing and Stafford both lack sufficient shade or shelter from wind and rain, and many people report that the high banks at Slaughter River present landing difficulties. Non-established camping areas which people seem to prefer are the area around Eagle Creek, Little Sandy Coulee, Pablo Island, Steamboat Rock, and Dark Butte. Very little is known concerning campsites on the lower river.

Most people on the river tend to bring a good deal of car-camping-type equipment including gas stoves and lanterns, cooler chests, lawn chairs, folding tables, and radios. During hot weather a good deal of beer is consumed. Almost all parties (90%) use gas stoves for cooking, and approximately three-quarters report having built fires for non-cooking reasons such as heat, insect control, esthetics, or tradition.

River users tended to be very conscientous about cleaning up after themselves, and litter accumulation along the river and in developed sites does not appear to be a serious problem so far. Garbage disposal areas and sanitation facilities need to be maintained if public cooperation is to be sustained.

C. AGTIVITY ANALYSIS - HIKING AND RELATED ACTIVITIES:

Most visitors (roughly 75%) do get off the river to hike. This is usually done around the evening campsite, though some parties prefer to pull over, hike, and then continue on to another campsite. The areas most frequently visited appear to be Hole in the Wall-Cathedral area, Eagle Creek, and Dark Butte. Most people just hike and take photographs; some groups teach basic rapelling from the rocks. In addition to scenery, another prime interest to hikers is history and archeology. Many groups have done some basic research concerning the history of the river, and they try to stop to look for key locations such as Lewis and Clark campgrounds, old forts and trading posts, steamboat relics, or Indian occupation sites. Gathering of artifacts, fossils, and interesting stones is popular. In general, people seem to be visiting a few, well-known areas as opposed to exploring on their own.

Wildlife sightings this summer include cottontail rabbits, mule and white-tailed deer, antelope, coyote, great blue heron, white pelican, canada goose, eastern and western kingbird, mallard, willet, lazuli bunting, northern oriole, common flicker, downy woodpecker, robin, yellow warbler, american goldfinch, say's phoebe, magpie, lark bunting, california gull, and beaver.

Fishing has been sporadically poor to fair, depending on conditions. Evenings or periods immediately after heavy rains are most productive for catfish taken on set lines with goldeye strips for bait. Grasshoppers can be used to take small walleyes, sauger, paddle-nose sturgeon, buffalo, drum perch, carp, and bullhead suckers. Paddlefish were frequently seen and occasionally snagged during periods of extremely high water.

All of the above information is related only to the upper section of the river.

## AN OVERVIEW

Recreational use of the Missouri is increasing on a yearly basis. Bob Singer of Missouri River Cruises reports that use has substantially increased during the past three years. As the boom in outdoor recreation continues, one can look towards even greater use of this area, most likely on an exponential curve. Over half (65%) of all river users this summer were new to the Missouri. Further, many of the repeat users had been on the river several times before (up to 20 - 30 float trips). Thise two facts in conjunction with the previously-mentioned trend of locals taking shorter floats with persons from further away taking longer trips, would seem to indicate that the river has enough appeal to both (1) interest people from far away who will base their entire vacation on a float trip, and (2) to sustain the interest among persons with greater access. To account for this appeal, visitors consistently point to four special attractions of the Missouri:

1. The Missouri's slow-moving currents and usually sunny days make it an almost ideal float trip for beginners. The river is especially well-suited for novice canoeists, as exemplivied by the relatively low-level canoeing skills displayed by many of the floaters. Many people mention that the Missouri has a reputation as an easy river, one which is free from the hazards or labors of white water, waterfalls, or portages. This makes it particularly attractive to families and youth agencies.

2. The scenery along the river, especially the white sandstone, is substantially different from anything in this part of the country. Many people accustomed to alpine meadows or deep forests find a special attraction in this unique area. The river also offers opportunities to view dynamic geologic processes and free-roaming wildlife.

3. The Missouri is a free-flowing river running through a primitive country. This is particularly true of the lower badlands section with its reduced traffic. This area can provide an easy-goint, isolated experience completely away from cars, telephones, or other trappings of civilization.

4. The history and archeology of the river accounts for much of the appeal. People want to see the country Lewis and Clark explored, the hills the Indians roamed, and feel the current that the keelboats and steamboats struggled against. Many visitors are conversant on the history of the river and spend much of their time off the river, looking for artifacts, old sites, or fossils.

Most river visitors recognize the need for management and preservation to insure quality experiences in the future. However, the public image of managing agencies can be fairly negative, and people fear strict regulations, high user fees, permits and reservations, and over-development of campgrounds with concession stands, gas pumps, and paved walkways or parking lots. Most seek a quality experience on their own terms and will view any future infringements as being completely unnecessary or even unjust. This attitude is particularly prevalent among repeat users,many of whom feel they have squatter's rights to the river.

Part of this negative view towards management also comes from a failure on the part of the Montana Department of Fish and Game to effectively maintain established campsites. Many floaters make comments on the over-flowing garbage pits, unkept toilets, and uncut grass at the various sites. Most floaters are very conscientous about cleaning up their camps and disposing of their garbage, and ask only for a place for disposal that is maintained. Most smokers, however, do not view cigarette butts or filters, or unburned matches as being litter and often dispose of them in the most convenient manner, usually the river.

Few accidents were reported this summer, although potential dangers include drowning, slipping on slick mud or loose sandstone, rockfall, or rattlesnakes. Contrary to popular belief, the actual danger represented by rattlesnakes is minimal, but many people on the river seem to be possessed by a total fear of all snakes and will kill on sight anything even remotely serpentine.

Finally, a basic conflict seems to exist between motorized and non-motorized use of the river. This largely takes the form of canoe and raft-floaters complaining about the noise from motorboats. A similar conflict occurred over the use of a large pistol for target shooting. A group of floaters who had arrived previously at an undesignated site complained that the noise from the pistol was disturbing their peace and therefore reducing their experience. The shooting was justified as being part of the cultural heritage of Montana and the west.

## RECOMMENDATIONS FOR MANAGEMENT

In conclusion, the following principles are offered as considerations in developing a comprehensive management plan for the proposed Upper Missouri Wild and Scenic River:

1. Establish a carrying capacity and regulate visitation accordingly. This should be done in conjunction with dispersing visitation to lesser used areas of the river so that popular areas such as Hole in the Wall do not not become over-crowded. Many of the subsequent principles are based on this concept.

2. Develop a floater's guide which would specify regulations, recommend campsites, and interpret the vast natural history of the river. This should be a self-guided experience and any interpretive devices or markers should be unobtrusive. Orienting people to the river so that they can locate various sites and landmarks for themselves can be a problem. One possible solution would be to establish a series of one-mile markers in both recreation areas so that floaters could accurately estimate their own speed of travel. One group of floaters offered the suggestion that the trail or guide might include a treasure-hunt-type approach so that certain formations or locations might be described in terms of "three paces south of the twisted snag will be a dinosaur..."

3. Determine which activities are in keeping with the Wild and Scenic River concept and develop facilities accordingly. If motorized traffic is to be encouraged, cement boat ramps should be built at favorable road access areas. Because of the dynamic nature of the river banks, these may require relocation on a yearly basis.

4. Establish a campground between Judith Landing and Cow Island. Either this site or Cow Island should have a well and pump facility. This site should be located approximately 20 miles down from Judith Landing, possibly in the Chimney Bend area.

5. Protect remaining artifacts, historical, and archeological sites by banning further gathering of nonrenewable souvenirs. Any standing buildings or cabins should be studied for possible restoration or protection.

6. Development should be used only to protect the resource, disperse visitors, and interpret the natural history. Concession stands, gas pumps, or unsightly buildings should be avoided at all costs.

7. Regulate fires, yet accomodate different preferences. Since most people use stoves for cooking, fires might be restricted to established sites. People might also be encouraged to bring their own firewood since river traffic and wood demands could certainly excede the replenshing supply of cottonwood snags and windfalls.

8. Maintain established sites by picking up gargabe, cleaning toilet facilities, and cutting grass in recreation areas. This can be a part of the river ranger duties.

9. Discourage rapelling on any part of the river cliffs. This is a poor place for this activity. Potential dangers include poor or marginal anchors, exposure to loose rockfall, and the possibility of encouraging free-climbing on poor quality rock.

10. Install a pay phone at Judith Landing. Many people use the Ottos' private line for often unnecessary calls of the "Hi-we're-having-a-great-time"-type call. Some calls for early pickups, etc. are fairly justifiable, but traffic in and out of the Ottos' home can be considerable during weekends or incremental weather. (up to 20-30 requests on a given sunday)

11. Visitor use studies should be continued so that future management can be based on actual needs and trends. An analysis of activities needs to be conducted for the lower section. In addition to the suggested form (Appendix D), one possible approach might be to utilize a double-sampling technique. Visitor use studies could be another aspect of the river ranger positions.

## APPENDIX A

The Bureau of Land Management would like to thank the following persons whose assistance contributed to this project:

Robert Singer - Fort Benton, Montana, Missouri River Cruises

Robert and Lorraine Otto - Big Sandy, Montana, operators of PN Ferry

David Conkling - Helena, Montana, Montana State Fish and Game Department

Josephine Brooker - Helena, Montana, Montana State Travel Promotion

Jerry Phillips - Acting Chief Ranger, Yellowstone National Park

Jim Lynn - Chief Ranger, Big Horn National Recreation Area

## APPENDIX B - SAMPLE OF FORM USED IN STUDY

n 6160–2
1969)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
BUDGET BUREAU NO. 42–R1539

### RECREATION VISITOR SURVEY

| A. IDENTIFICATION | CODE * |
|---|---|
| 1. Observation location County | ___ ___ ___ |
| 2. State District Planning Unit | ___ ___ |
| 3. Observation period: Month Day Year | ___ ___ |
| Weekday (1) Weekend Day (2) | _ |

### B. VISITOR CHARACTERISTICS

| | |
|---|---|
| 1. Vehicle type: (01) Car (02) Car-trailer (03) Pickup (04) Pickup-camper (05) Pickup-trailer (06) Jeep (07) Camper-vans Other *(describe)* | ___ |
| 2. Vehicle origin: *(State and License number)* *(record and code first six digits of license on main vehicle)* | ___ ___ ___ ___ ___ ___ |
| 3. Visit type: (1) Nonrecreation (2) Recreation (3) Reentry | _ |
| Activities: (01) Camping (02) Picnicking (03) Fishing (04) Sightseeing (05) Travel Other *(describe)* | ___ |
| 5. Trip origin: State County | ___ ___ ___ |

6. Last two stops before arriving

| STATE | NAME OF AREA | ACCOMMODATION | L.O.S.** | | | |
|---|---|---|---|---|---|---|
| | | | | ___ | ___ ___ | ___ |
| | | | | ___ | ___ ___ | ___ |

7. Next two stops after leaving

| STATE | NAME OF AREA | ACCOMMODATION | L.O.S.** | | | |
|---|---|---|---|---|---|---|
| | | | | ___ | ___ ___ | ___ |
| | | | | ___ | ___ ___ | ___ |

| | |
|---|---|
| 8. Vehicle occupants *(number)* | ___ |
| 9. Duration of visit | |
| a. Entrance: Date Time am pm | ___ ___ ___ ___ |
| . Exit: Date Time am pm | ___ ___ ___ ___ |

Interviewer's comments and name

* Code and coding procedures to be assigned by State Recreation Specialist (Instructions on reverse)

## INSTRUCTIONS

*(Entry numbers not listed are self-explanatory)*

B.6 Record the following information pertaining to the respondent's last two planned stops: (a) State; (b) Forest, Park, Region, or Urban area; (c) campground, picnic area, interpretive site, resort, hotel-motel, or any other specific accommodation; and (d) estimated length of stay to the nearest hour.

If stops number less than two, leave appropriate lines blank. In recording the sequence of stops, begin with the stop nearest the study area.

B.7 Repeat B.6 instructions for respondent's next two planned stops.

GPO 851-245

## APPENDIX C - REFERENCES

Conkling, David : "Cooney Revoir Pilot Study," Recreation and Parks Division, Montana Department of Fish and Game. May 1974.

Craig, Vernon: "Ride the Wide Missouri Historic Waterway," Montana Department of Fish and Game.

Ellis, Dick: "The Wild Missouri," Montana Outdoors, May - June 1974.

"Information Brochure: National Wild and Scenic River Study, Missouri River," Bureau of Outdoor Recreation, Mid-continent Region, Denver, Colorado.

Isaac, Stephen with Michael, William: Handbook in Research and Evaluation. San Diego: Robert R. Knapp, publisher. 1971.

"Double Sampling," RIM Handbook - 124.72, United States Forest Service, January 1974.

Stern, David Carlos: "To Dam a River," High Country News, Lander, Wyoming. April 26, 1974.

Wallace, Robert F. and Blake, Daniel R.: Montana Travel Study. Bureau of Business and Economic Research - School of Business Administration, University of Montana, Missoula. July 11, 1966.

## APPENDIX D

SUGGESTED FORM FOR CONTINUED STUDIES: (Front Page)

1. DATE OF OBSERVATION:_____

2. DAY OF WEEK:_____

3. OBSERVATION POINT:_____

4. NO. IN PARTY:____

5. ORIGIN OF FLOATERS:

| Hometown | Number |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

6. TYPE OF GROUP:

Business _____
Family _____
Community _____
Youth Ag. _____
Church _____
Other _____
(specify) _____

7. LENGHT OF VISIT: _____

8. TOTAL VISITOR DAYS:_____

9. LENGTH OF FLOAT:

FB --- K _____
FB --- JL _____
CB --- K _____
CB --- JL _____
L --- K _____
L --- JL _____
JL --- K _____
Other _____
(specify)

10. TYPE OF BOAT:

| | #'s |
|---|---|
| Canoe | _____ |
| Raft | _____ |
| Motorboat | _____ |
| Kayak | _____ |
| Pontoon | _____ |

11. PREVIOUS USE OF RIVER:

Days _____
Float trips _____

12. HOW THEY HEARD OF THE RIVER:

Ads _____
Magazine _____
Newspaper _____
Friends _____
Trip guide_____
Other _____
(specify)

13. ACTIVITIES AND AREAS VISITED: (Back page)

| | Floating | Hiking | Camping | Fishing | Artifacts | Photography | Wildlife | Others |
|---|---|---|---|---|---|---|---|---|
| Fort Benton | | | | | | | | |
| Loma | | | | | | | | |
| Coal Banks | | | | | | | | |
| Little Sandy | | | | | | | | |
| Eagle Creek | | | | | | | | |
| Hole in Wall | | | | | | | | |
| Slaughter R. | | | | | | | | |
| Judith Landing | | | | | | | | |
| Stafford Ferry | | | | | | | | |
| Chimney Bend | | | | | | | | |
| Cow Island | | | | | | | | |
| Kipp Park | | | | | | | | |
| Others | | | | | | | | |

14. RECOMMENDATIONS FOR MANAGEMENT:

Record unsolicited comments and general observations.

This intern report was read and accepted by a staff member at:

Agency: Bureau of Land Management

Address: Drawer 1160
Lewistown, Montana 59457

This report was completed by a WICHE intern. This intern's project was part of the Resources Development Internship Program administered by the Western Interstate Commission for Higher Education (WICHE).

The purpose of the internship program is to bring organizations involved in community and economic development, environmental problems and the humanities together with institutions of higher education and their students in the West for the benefit of all.

For these organizations, the intern program provides the problem-solving talents of student manpower while making the resources of universities and colleges more available. For institutions of higher education, the program provides relevant field education for their students while building their capacity for problem-solving.

WICHE is an organization in the West uniquely suited for sponsoring such a program. It is an interstate agency formed by the thirteen western states for the specific purpose of relating the resources of higher education to the needs of western citizens. WICHE has been concerned with a broad range of community needs in the West for some time, insofar as they bear directly on the well-being of western peoples and the future of higher education in the West. WICHE feels that the internship program is one method for meeting its obligations within the thirteen western states. In its efforts to achieve these objectives, WICHE appreciates having received the generous support and assistance of the Economic Development Administration; the Jessie Smith Noyes Foundation; the National Endowment for the Humanities; the Wyoming Office of Manpower Planning; and of innumerable local leaders and community organizations, including the agency that sponsored this intern project.

For further information, write Bob Hullinghorst, Director, Resources Development Internship Program, WICHE, P.O. Drawer 'P', Boulder, Colorado 80302 or call (303) 492-7177.